

IN THE CLAIMS

1. (Currently Amended) An electromagnetic antenna apparatus; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in a frequency region centered substantially at a selected frequency between said first frequency and said second frequency; the apparatus comprising:
 - (a) a substantially planar **substantially plate-like** antenna transceiving element **having a periphery**;
 - (b) a feed structure; said feed structure being coupled with said antenna transceiving element for communicating transceiving signals with said antenna transceiving element; and
 - (c) a discontinuity structure in said ~~antenna transceiving element~~ **periphery**; said discontinuity structure being connected with said feed structure; said discontinuity structure being configured for effecting return of selected said transceiving signals to said feed structure as return signals; said return signals effecting said deviation.
2. (Currently Amended) An electromagnetic antenna apparatus as recited in Claim 1 wherein said antenna transceiving element has a polygonal shape defined by a ~~periphery~~ **said periphery**; said discontinuity structure including a first deviation structure interrupting said periphery at a first deviation locus displaced a first peripheral distance in a first direction along said periphery from said feed structure; said first deviation structure extending to a first return distance from said first deviation locus toward said feed structure; said first return distance being sufficient to establish signal coupling between said first deviation structure and said feed structure.
3. (Original) An electromagnetic antenna apparatus as recited in Claim 2 wherein said selected frequency has a selected wavelength and wherein said first peripheral

distance plus said first return distance substantially approximates one-half said selected wavelength.

4. (Original) An electromagnetic antenna apparatus as recited in Claim 2 wherein said discontinuity structure further includes a second deviation structure interrupting said periphery at a second deviation locus displaced a second peripheral distance in a second direction along said periphery from said feed structure; said second deviation structure extending to a second return distance from said second deviation locus toward said feed structure; said second return distance being sufficient to establish signal coupling between said second deviation structure and said feed structure.
5. (Original) An electromagnetic antenna apparatus as recited in Claim 4 wherein said selected frequency has a selected wavelength and wherein said second peripheral distance plus said second return distance substantially approximates one-half said selected wavelength.
6. (Currently Amended) An electromagnetic antenna apparatus as recited in Claim 1 wherein said antenna transceiving element has a substantially elliptical shape defined by ~~a periphery~~ said periphery having a peripheral length; said elliptical shape being oriented substantially symmetrically with respect to a major axis and a minor axis perpendicular with said major axis; said discontinuity structure including a material-free zone within said periphery; said material-free zone being delineated by a first border having a first edge length and a second border having a second edge length greater than said first edge length and less than said peripheral length; said first border and said second border meeting at a pair of termini; each terminus of said pair of termini being situated sufficiently near said feed structure to establish signal coupling between said deviation structure and said feed region.

7. (Original) An electromagnetic antenna apparatus as recited in Claim 6 wherein said frequency region is bounded by a lower frequency having a longer wavelength and by a higher frequency having a shorter wavelength; and wherein said first edge length approximates one-half said shorter wavelength and said second edge length approximates one-half said longer wavelength.
8. (Currently Amended) An electromagnetic antenna apparatus; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in a frequency region centered substantially at a selected frequency between said first frequency and said second frequency; the apparatus comprising:
 - (a) at least one substantially planar **substantially plate-like** antenna transceiving element **having a periphery**;
 - (b) a feed structure for each respective antenna transceiving element of said at least one antenna transceiving element; transceiving signals being communicated with each said respective antenna transceiving element via a respective said feed structure;
 - (c) a discontinuity structure in **said periphery of** at least one selected antenna transceiving element of said **respective at least one** antenna transceiving element; said discontinuity structure being connected with said respective feed structure for said at least one selected **selected** antenna transceiving element; said discontinuity structure being configured for effecting return of selected said transceiving signals to said respective feed structure as return signals; said return signals effecting said deviation.
9. (Currently Amended) An electromagnetic antenna apparatus as recited in Claim 8 wherein said at least one selected antenna transceiving element has a polygonal shape

defined by ~~a periphery~~ said periphery; said discontinuity structure including a first deviation structure interrupting said periphery at a first deviation locus displaced a first peripheral distance in a first direction along said periphery from said respective feed structure; said first deviation structure extending to a first return distance from said first deviation locus toward said respective feed structure; said first return distance being sufficient to establish signal coupling between said first deviation structure and said respective feed structure.

10. (Original) An electromagnetic antenna apparatus as recited in Claim 9 wherein said selected frequency has a selected wavelength and wherein said first peripheral distance plus said first return distance substantially approximates one-half said selected wavelength.
11. (Original) An electromagnetic antenna apparatus as recited in Claim 9 wherein said discontinuity structure further includes a second deviation structure interrupting said periphery at a second deviation locus displaced a second peripheral distance in a second direction along said periphery from said respective feed structure; said second deviation structure extending to a second return distance from said second deviation locus toward said respective feed structure; said second return distance being sufficient to establish signal coupling between said second deviation structure and said respective feed structure.
12. (Original) An electromagnetic antenna apparatus as recited in Claim 11 wherein said selected frequency has a selected wavelength and wherein said second peripheral distance plus said second return distance substantially approximates one-half said selected wavelength.

13. (Currently Amended) An electromagnetic antenna apparatus as recited in Claim 8 wherein said at least one selected antenna transceiving element has a substantially elliptical shape defined by ~~a periphery~~ said periphery having a peripheral length; said elliptical shape being oriented substantially symmetrically with respect to a major axis and a minor axis perpendicular with said major axis; said discontinuity structure including a material-free zone within said periphery; said material-free zone being delineated by a first border having a first edge length and a second border having a second edge length greater than said first edge length and less than said peripheral length; said first border and said second border meeting at a pair of termini; each terminus of said pair of termini being situated sufficiently near said respective feed structure to establish signal coupling between said deviation structure and said respective feed region.
14. (Original) An electromagnetic antenna apparatus as recited in Claim 13 wherein said frequency region is bounded by a lower frequency having a longer wavelength and by a higher frequency having a shorter wavelength; and wherein said first edge length approximates one-half said shorter wavelength and said second edge length approximates one-half said longer wavelength.
15. (Currently Amended) An antenna apparatus for transceiving electromagnetic signals; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in at least one frequency region; each respective frequency region of said at least one frequency region being centered substantially at a respective selected frequency between said first frequency and said second frequency; the apparatus comprising:
- (a) at least one substantially planar substantially plate-like transceiving element having a periphery;

- (b) at least one feed structure; each respective said at least one transceiving element transferring said electromagnetic signals via a respective feed structure of said at least one feed structure;
- (c) at least one selected transceiving element of said at least one transceiving element including a discontinuity structure in said periphery; said discontinuity structure being connected with said respective feed structure for effecting return of selected said transceiving signals to said respective feed structure as return signals; said return signals effecting said deviation.

16. (Currently Amended) An antenna apparatus for transceiving electromagnetic signals as recited in Claim 15 wherein said at least one selected transceiving element has a polygonal shape defined by ~~a periphery~~ said periphery; said polygonal shape being generally symmetric about an axis; said axis intersecting said respective feed structure; said discontinuity structure ~~comprising~~ establishing a plurality of material free zones in said polygonal shape; said plurality of material free zones being arranged substantially symmetrically with respect to said axis; each respective material free zone interrupting said periphery at a respective deviation locus displaced a respective deviation distance along said periphery from said respective feed structure; each said respective material free zone extending a respective return distance from said respective deviation locus toward said respective feed structure; said respective return distance being sufficient to establish signal coupling between said respective deviation structure and said respective feed structure.

17. (Original) An antenna apparatus for transceiving electromagnetic signals as recited in Claim 16 wherein each said respective selected frequency has a respective selected wavelength and wherein said respective peripheral distance plus said respective return distance substantially approximates one-half of a respective selected wavelength.

18. (Currently Amended) An antenna apparatus for transceiving electromagnetic signals as recited in Claim 15 wherein said at least one selected antenna transceiving element has a substantially elliptical shape defined by ~~a periphery~~ said periphery having a peripheral length; said elliptical shape being oriented substantially symmetrically with respect to a major axis and a minor axis perpendicular with said major axis; said discontinuity structure including a material-free zone within said periphery; said material-free zone being bounded by a first border having a first edge length and a second border having a second edge length; said second edge length being greater than said first edge length and less than said peripheral length; said first border and said second border meeting at a pair of termini; each terminus of said pair of termini being situated sufficiently near said respective feed structure to establish signal coupling between said deviation structure and said respective feed region.
19. (Original) An electromagnetic antenna apparatus as recited in Claim 18 wherein said frequency region is bounded by a lower frequency having a longer wavelength and by a higher frequency having a shorter wavelength; and wherein said first edge length approximates one-half said shorter wavelength and said second edge length approximates one-half said longer wavelength.
20. (New) An electromagnetic antenna apparatus; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in a frequency region centered substantially at a selected frequency between said first frequency and said second frequency; the apparatus comprising:
- (a) a substantially planar antenna transceiving element;
 - (b) a feed structure; said feed structure being coupled with said antenna transceiving element for communicating transceiving signals with said antenna transceiving element; and

- (c) a discontinuity structure in said antenna transceiving element; said discontinuity structure being connected with said feed structure; said discontinuity structure being configured for effecting return of selected said transceiving signals to said feed structure as return signals; said return signals effecting said deviation; said antenna transceiving element having a polygonal shape defined by a periphery; said discontinuity structure including a first deviation structure interrupting said periphery at a first deviation locus displaced a first peripheral distance in a first direction along said periphery from said feed structure; said first deviation structure extending to a first return distance from said first deviation locus toward said feed structure; said first return distance being sufficient to establish signal coupling between said first deviation structure and said feed structure; said first peripheral distance plus said first return distance substantially approximating one-half said selected wavelength.

21. (New) An electromagnetic antenna apparatus; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in a frequency region centered substantially at a selected frequency between said first frequency and said second frequency; the apparatus comprising:
- (a) at least one substantially planar antenna transceiving element;
 - (b) a feed structure for each respective antenna transceiving element of said at least one antenna transceiving element; transceiving signals being communicated with each said respective antenna transceiving element via a respective said feed structure;
 - (c) a discontinuity structure in at least one selected antenna transceiving element of said respective antenna transceiving element; said discontinuity structure being connected with said respective feed structure for said at least one selected antenna transceiving element; said discontinuity structure being configured for effecting return of selected said transceiving signals to said respective feed structure as return signals; said return signals effecting said deviation; said at least one

selected antenna transceiving element having a polygonal shape defined by a periphery; said discontinuity structure including a first deviation structure interrupting said periphery at a first deviation locus displaced a first peripheral distance in a first direction along said periphery from said respective feed structure; said first deviation structure extending to a first return distance from said first deviation locus toward said respective feed structure; said first return distance being sufficient to establish signal coupling between said first deviation structure and said respective feed structure; said selected frequency having a selected wavelength; said first peripheral distance plus said first return distance substantially approximating one-half said selected wavelength.

22. (New) An antenna apparatus for transceiving electromagnetic signals; the apparatus exhibiting a generally continuous signal response between a first frequency and a second frequency; the apparatus exhibiting a deviation from said signal response in at least one frequency region; each respective frequency region of said at least one frequency region being centered substantially at a respective selected frequency between said first frequency and said second frequency; the apparatus comprising:
- (a) at least one substantially planar transceiving element;
 - (b) at least one feed structure; each respective said at least one transceiving element transferring said electromagnetic signals via a respective feed structure of said at least one feed structure;
 - (c) at least one selected transceiving element of said at least one transceiving element including a discontinuity structure; said discontinuity structure being connected with said respective feed structure for effecting return of selected said transceiving signals to said respective feed structure as return signals; said return signals effecting said deviation; said at least one selected transceiving element having a polygonal shape defined by a periphery; said polygonal shape being generally symmetric about an axis; said axis intersecting said respective feed structure; said discontinuity structure comprising a plurality of material free zones in said polygonal shape; said plurality of material free zones being arranged

substantially symmetrically with respect to said axis; each respective material free zone interrupting said periphery at a respective deviation locus displaced a respective deviation distance along said periphery from said respective feed structure; each said respective material free zone extending a respective return distance from said respective deviation locus toward said respective feed structure; said respective return distance being sufficient to establish signal coupling between said respective deviation structure and said respective feed structure; each said respective selected frequency having a respective selected wavelength; said respective peripheral distance plus said respective return distance substantially approximating one-half of a respective selected wavelength.